

Appl. No. 09/600,590  
Amdt. dated March 4, 2004  
Reply to Office Action of July 11, 2003

Docket No. 034299-268

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

Claim 1 (Currently Amended): ~~Complaint~~Compliant substrate (5, 20, 30) comprising a carrier (1, 14, 21, 31) and at least one thin layer (4, 13, 23, 34) formed on the surface of said carrier and intended to be used as a seed for a hetero-epitaxial growth, the carrier and the thin layer being joined one to another by joining means (3, 11, 15, 16, 24, 25) such that the stresses brought by said structure are absorbed in whole or in part by the thin layer and/or the joining means, wherein said joining means ~~comprises~~is selected from the group consisting of: a layer of microcavities, and a bonding interface whose bonding energy is controlled to permit the absorption of said stresses.

Claim 2 (Withdrawn)

Claim 3 (Withdrawn)

Claim 4 (Withdrawn)

Claim 5 (Withdrawn)

Claim 6 (Withdrawn)

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Claim 7 (Withdrawn)

Claim 8 (Withdrawn)

Claim 9 (Withdrawn)

Claim 10 (Withdrawn)

Claim 11 (Withdrawn)

Claim 12 (Withdrawn)

Claim 13 (Currently Amended): Compliant substrate according to claim 13, characterized in that said bonding interface with controlled bonding energy is an interface resulting from a surface preparation and/or an interface resulting from a heat treatment and/or an interface resulting from a creation of defects.

Claim 14 (Currently Amended): Compliant substrate according to claim 13, characterized in that surface preparation is a control of roughness and/or hydrophiliea.

Claim 15 (Previously Amended): Compliant substrate according to Claim 13, characterized in that said joining zone also comprises at least one intermediate layer (22, 32, 33) between the thin layer (23, 34) and the carrier (21, 31).

Claim 16 (Previously Amended): Compliant substrate according to claim 15, characterized in that the intermediate layer (22, 32, 33) is a metal layer or metal alloy layer.

Claim 17 (Currently Amended): Compliant substrate according to claim 15, characterized in that said at least one intermediate layer is formed such that it comprises non-homogeneities ~~able to relax stresses~~.

Claim 18 (Cancelled)

Claim 19 (Previously Amended): Compliant substrate (5, 20, 30) according to Claim 1, characterized in that said thin layer (4, 13, 23, 34) is in a first crystalline material and is intended to be used as hetero-epitaxial growth seed for a second crystalline material forming said structure.

Claim 20 (Currently Amended): Compliant substrate according to claim 19, characterized in that said thin layer is a pre-stressed layer by the presence of a foreign element in said first crystalline material ~~in order to promote the compliance of said substrate.~~

Claim 21 (Original): Compliant substrate according to claim 20, characterized in that the foreign element is inserted through implantation by bombardment and/or inserted by diffusion.

Claim 22 (Previously Amended): Compliant substrate according to Claim 20, characterized in that said foreign element is a doping agent of the thin layer.

Claim 23 (Previously Amended): Compliant substrate (5, 20, 30) according to Claim 19, characterised in that said first crystalline material is a semiconductor.

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Claim 24 (Previously Amended): Application of the compliant substrate (5, 20, 30) according to Claim 19, to the hetero-epitaxial growth of a crystalline material chosen from among GaN, SiGe, AlN, InN, and SiC.

Claim 25 (Withdrawn)

Claim 26 (Withdrawn)

Claim 27 (Withdrawn)

Claim 28 (Withdrawn)

Claim 29 (Previously Added): Compliant substrate according to Claim 14, characterized in that said joining zone also comprises at least one intermediate layer (22; 32, 33) between the thin layer (23; 34) and the carrier (21; 31).

Claim 30 (Cancelled)

Claim 31 (Previously Added): Compliant substrate (5, 20, 30) according to Claim 18, characterized in that said thin layer (4, 13, 23, 34) is in a first crystalline material and is intended to be used as hetero-epitaxial growth seed for a second crystalline material forming said structure.

Claim 32 (Previously Added): Compliant substrate according to Claim 21, characterized in that said foreign element is a doping agent of the thin layer.

Claim 33 (Previously Added): Compliant substrate (5, 20, 30) according to Claim 22, characterized in that said first crystalline material is a semiconductor.

Claim 34 (Previously Added): Application of the compliant substrate (5, 20, 30) according to Claim 23, to the hetero-epitaxial growth of a crystalline material chosen from among GaN, SiGe, AlN, InN and SiC.

Claim 35 (New): Compliant substrate (5, 20, 30) comprising a carrier (1, 14, 21, 31) and at least one thin layer (4, 13, 23, 34) formed on the surface of said carrier and intended to be used as a seed for a hetero-epitaxial growth, the carrier and the thin layer being joined one to another by joining means (3, 11, 15, 16, 24, 25) such that the stresses brought by said structure are absorbed in whole or in part by the thin layer and/or the joining means, wherein said joining means comprises a bonding interface whose bonding energy is controlled to permit the absorption of said stresses.

Claim 36 (New): Compliant substrate according to Claim 1, characterized in that said joining zone also comprises at least one intermediate layer (22, 32, 33) between the thin layer (23, 34) and the carrier (21, 31).

Claim 37 (New): Compliant substrate according to claim 36, characterized in that the intermediate layer (22, 32, 33) is a metal layer or metal alloy layer.

Claim 38 (New): Compliant substrate according to claim 36, characterized in that said at least one intermediate layer is formed such that it comprises non-homogeneities.

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Claim 39 (New): Compliant substrate (5, 20, 30) according to Claim 36, characterized in that said thin layer (4, 13, 23, 34) is in a first crystalline material and is intended to be used as hetero-epitaxial growth seed for a second crystalline material forming said structure.

Claim 40 (New): Compliant substrate according to claim 39, characterized in that said thin layer is a pre-stressed layer by the presence of a foreign element in said first crystalline material.

Claim 41 (New): Compliant substrate according to claim 40, characterized in that the foreign element is inserted through implantation by bombardment and/or inserted by diffusion.

Claim 42 (New): Compliant substrate according to Claim 40, characterized in that said foreign element is a doping agent of the thin layer.

Claim 43 (New): Compliant substrate (5, 20, 30) according to Claim 39, characterised in that said first crystalline material is a semiconductor.

Claim 44 (New): Application of the compliant substrate (5, 20, 30) according to Claim 39, to the hetero-epitaxial growth of a crystalline material chosen from among GaN, SiGe, AlN, InN, and SiC.

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Claim 45 (New): Compliant substrate according to Claim 36, characterized in that said joining zone also comprises at least one intermediate layer (22; 32, 33) between the thin layer (23; 34) and the carrier (21; 31).

Claim 46 (New): Compliant substrate (5, 20, 30) according to Claim 36, characterized in that said thin layer (4, 13, 23, 34) is in a first crystalline material and is intended to be used as hetero-epitaxial growth seed for a second crystalline material forming said structure.

Claim 47 (New): Compliant substrate according to Claim 41, characterized in that said foreign element is a doping agent of the thin layer.

Claim 48 (New): Compliant substrate (5, 20, 30) according to Claim 42, characterized in that said first crystalline material is a semiconductor.

Claim 49 (New): Application of the compliant substrate (5, 20, 30) according to Claim 43, to the hetero-epitaxial growth of a crystalline material chosen from among GaN, SiGe, AlN, InN and SiC.